## REMARKS

Claims 1-15 are pending in this application. Claims 1, 3, 9-11 and 13 are independent. In light of the amendments and remarks made herein, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections.

Applicants wish to thank the Examiner for allowing claims 1-8 and further indicating that claim 13 includes allowable subject matter. By this amendment, Applicants have amended claim 13 to be written in independent form to include the elements of its base claim 11. As the Examiner has indicated that claim 13 included allowable subject matter, Applicants respectfully request the Examiner indicate claim 13 as being allowed.

The Examiner rejected claims 11-12, 14 and 15 under 35 U.S.C. §102(b) as being anticipated by Russell et al. (US Patent 6,703, 570) (hereinafter, "Russell"). Further, the Examiner rejected claims 9-10 under 35 U.S.C. § 103 as being unpatentable over Russell in view of Redford et al. (US Patent 5,459,489) (hereinafter "Redford"); and rejected claim 15 under 35 U.S.C. § 103 as being unpatentable over Russell in view of Colgan et al (US Patent 6,529,189). Applicants respectfully traverse these rejections.

### Claim Rejections – 35 U.S.C. §102

In support of the Examiner's rejection of claim 11, the Examiner asserts that Russell teaches all of the claim elements, including "varying the infrared signal in response to a user input related to a frequency of use of pressure levels and in response to changes in pen pressure against the display," citing to Fig. 5 and col. 6, lines 40-67. Applicants respectfully disagree with the Examiner's characterization of this reference.

The disclosure of Russell is directed to a digital pen using ultrasonic tracking. At col. 6, lines 41-67, Russell discloses as follows:

> FIG. 5 shows that in one preferred embodiment, the pulse width and, hence, power of the US **energy generated by the transducer 48 can be dynamically established.** Commencing at block 72, **for every n$^{th}$ frame, the processor 22 of the base 16 enters a**

> **power adjust routine** as follows. At decision diamond 74 it is determined whether the number of receiver pulses in a frame exceed an upper limit, e.g., twenty (20), and if so the logic flows to block 76 to lower the US pulse width by a predetermined delta amount (or multiple thereof) by causing the IR transmitter 20 on the base 16 to transmit the next synchronization pulse having a pulse width adjusted accordingly. **When the pen 14 receives this reduced pulse width synchronization signal, its microprocessor lowers the pulse width transmitted by the US transducer 48.** The next cycle is then entered at block 78.
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> If, on the other hand, the test at decision diamond 74 is negative, the logic next tests whether the number of receiver pulses in a frame was less than a lower limit, e.g., twelve (12), and if so the logic flows to block 82 to increase the US pulse width by a predetermined delta amount (or multiple thereof, up to a maximum of $1/2\tau$) by causing the IR transducer 20 on the base 16 to transmit the next synchronization pulse having a pulse width adjusted accordingly. **When the pen 14 receives this increased pulse width synchronization signal, its microprocessor increases the pulse width transmitted by the US transducer 48**. The next cycle is then entered at block 78.

As can be seen from the above disclosure, for every nth frame, a power adjust routine is performed by determining whether the **current** number of receiver pulses in the nth frame exceeds an upper or lower limit. If the number exceeds the upper or lower limit, the pulse width is increased or reduced, thereby increasing or reducing the power.

In contrast, claim 11 clearly recites "varying the infrared signal in response to a user input related to **a frequency of use of pressure levels** and in response to changes in pen pressure against the display." As can be seen from the claim language, the signal is varied in response to a user input related to a **frequency of use**. However, Russell clearly discloses adjusting the pulse width based on the **current number** (or the current use) of receiver pulses. A current number is wholly insufficient to anticipate frequency of use. Applicants submit that adjusting power based on the number of receiver pulses received during a frame is insufficient to teach or suggest varying the signal based on frequency of use. At least for this reason, Applicants respectfully submit that claim 11 is not anticipated by Russell and it is respectfully requested that the outstanding rejection be withdrawn.

It is respectfully submitted that claims 12 and 14-15 are allowable for the reasons set forth above with regard to claim 11 at least based on their dependency on claim 11.

**Claim Rejections – 35 U.S.C. §103**

In support of the Examiner's rejection of claim 9, the Examiner asserts that Russell discloses all of the elements, except the controller having a sequence input mode enabling inputs of a series of pen pressure levels in an order of frequency of use. The Examiner relies on the teachings of Redford to cure the deficiencies of the teachings of Russell. The Examiner asserts Redford discloses varying the contact signal in proportion to the pressure level. The Examiner further asserts that Redford discloses receiving two input signals wherein one of the signals must be a reference signal or a threshold signal. Further the Examiner asserts that three groups are ordered by frequency of use.

The Examiner asserts that one skilled in the art would be motivated to combine the teachings of Redford with the teachings of Russell in order to control infrared signals. Applicants disagree with the Examiner's characterization of the references.

The disclosure of Redford is directed to a handheld electronic remote control device having orientation sensors. The sensors include two angular position detectors. The angular rotation of the detector is detected by measuring the amount of reflected light that falls upon each of the two light measuring sensors 130 and 132 (col. 5, lines 3-6). At col. 6, line 35-col. 7, line 17, Redford discloses as follows:

> The respective levels of illumination of photodiodes 130 and 132 determine the rate at which C101 is charged and discharged. Hence, if both photodiodes are equally illuminated (a "level" condition), the charge rate and discharge rate are equal, thus making the duty cycle of the square wave output 50%. If illumination of the photodiode does not equal the duty cycle of the output, it is not 50%. **That is, as one photodiode receives more current than the other, the high (or low) portion of each cycle of the square wave output will occupy a larger percentage of the total output waveform thus indicating a change in angular position.** Hence, the relative change in duty cycle of the output represents relative angular motion (or position)...
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> FIG. 5 illustrates graphically the pulse width modulated square wave output of a DIA as it varies over time. As indicated in the figure, the amount of time that the output is held

> high is proportional to the value of the first analog input, and the amount of time that the output is held low is proportional to the second analog input. Part (a) of FIG. 5 depicts the DIA output wave form when both analog inputs are of equal value, part (b) represents the output wave form when the value of the first analog input exceeds the second, and part (c) depicts the condition when the second analog input exceeds the first. **In the context of the orientation sensor of the present invention, part (a) would represent a "level condition", part (b) would represent a tilt in one direction around the cylindrical axis, and part (c) would represent a tilt in the other direction around the cylindrical axis.**

As can be seen from the above citation, Redford discloses comparing the signals received at each of the two orientation sensors to determine whether the pen is in a level condition, or tilted around the cylindrical axis.

In contrast, claim 9 requires a controller having a sequence input mode enabling inputs of a series of pen pressure levels in an order of frequency of use. Redford does not disclose enabling inputs of a series of pen pressure levels in an order of frequency of use. Redford merely discloses utilizing the input from the two orientation sensors to determine the orientation, or tilt, of the pen. These teachings are wholly insufficient to teach or suggest pen pressure.

Further, the Examiner's assertions that Redford discloses varying the contact signal in proportion to the pressure level, is wholly inaccurate. Redford does not at all disclose varying the contact signal in proportion to the pressure level. Further, the Examiner's assertion that Redford discloses receiving two input signals wherein one of the signals must be a reference signal or a threshold signal is also inaccurate. The pulse width modulated square wave is output and received by the orientation sensors. Neither of these signals are "reference signals" as asserted by the Examiner. Both signals are compared in order to determine orientation, or tilt, of the pen. Further the Examiner's assertion that three groups are ordered by frequency of use is wholly inaccurate. The received signals are merely compared in order to determine the tilt of the pen. They are not ordered, asserted by the Examiner, in order to determine frequency of use.

As such, Applicants respectfully submit that Redford fails to cure the deficiencies of the teachings of Russell by failing to teach or suggest a controller having a sequence input mode

enabling inputs of a series of pen pressure levels in an order of frequency of use, as required by claim 9. As neither of the cited references teach or suggest this claim element, Applicants submit that claim 9 is not obvious over the references as cited and it is respectfully requested that the outstanding rejections be withdrawn.

In support of the Examiner's rejection of claim 10, the Examiner asserts that Russell discloses all of the elements, except a sequence input means. The Examiner relies on the teachings of Redford to cure the deficiencies of the teachings of Redford, citing to Fig. 5 and input 1 and input 2.

The Examiner asserts that one skilled in the art would be motivated to combine the teachings of Redford with the teachings of Russell in order to control infrared signals. Applicants disagree with the Examiner's characterization of the references.

As noted above with regard to claim 9, Redford merely discloses two orientation sensors that receive the pulse width modulated square wave. Based on the signal received from the two orientation sensors, the tilt of the pen may be determined.

However, claim 10 requires the infrared transmitter sending a signal that varies with the sensed contact pressure between the input pen and the display device in a manner determined by a sequence input of a user. There is no disclosure that is directed to varying the signal in a manner determined by a sequence input of a user.

Further, as noted above with regard to claim 1, there is no disclosure in Russell that is directed to varying the signal based on the sensed contact pressure in a manner determined by a sequence input of a user. As neither of the cited references teach or suggest this claim element, Applicants submit that claim 10 is not obvious over the references as cited. It is respectfully requested that the outstanding rejections be withdrawn.

**Conclusion**

In view of the above remarks, Applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Catherine M. Voisinet Reg. No. 52,327 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

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